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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,818	09/06/2006	Goran Schack	9563-21	4711
54414 7590 09/05/2008 MYERS BIGEL SIBLEY & SAJOVEC, P.A. P.O. BOX 37428 RALEIGH, NC 27627				
EXAMINER				
LE, HOANGANH T				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,818

Applicant(s)

SCHACK ET AL.

Examiner

HoangAnh T. Le

Art Unit

2821

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. The amendment filed on July 02, 2008 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai et al (the US 2003/0117324, of record) in view of Munson et al (the US Patent No. 6,049,314).

Regarding claim 1, the Iwai et al reference teaches in figures 4 and 11 a portable communication device comprising: an antenna feeding circuit 303; a first part (figures 1,3,11) having a hollow interior and a main section having a width, length and a first height and including a plurality of electrical elements; and an antenna system comprising; a ground plane 301,321,322 located within and extending along the whole width and the length of at least the main section; and an antenna element 302,105,106 located within the first part, wherein the ground plane is provided in one piece, wherein the plurality of electrical elements of the first part includes radio transmission elements electrically connected to said ground plane are radio transmission elements, wherein the ground plane and the antenna element are provided on a same substrate, and wherein the antenna element is distanced from the ground plane by at least

approximately the first height in a height direction of the first part (figures 4 and 11). Iwai et al does not teach the antenna element and the ground plane being provided from a unitary piece.

The Munson et al reference teaches in figures 1-3 an antenna having unitary radiator/ground plane (see the title and the abstract) in order to have a lower cost, have better reliability, have a higher gain, have an increased bandwidth, and have a lower weight (col. 3, lines 65-66, col. 4, lines 1-3).

Since one of ordinary skill in the art would recognize the benefit of improving the gain and the bandwidth of the antenna, it would have been obvious to provide Iwai et al with the antenna element and the ground plane being provided from a unitary piece as taught by Munson et al.

Regarding claim 2, figures 1-2 show a user interface in the first part, wherein the ground plane and the user interface arranged in the first part are provided on a same substrate.

Regarding claim 3, figures 1-3 show a second part 103 connected to the first part 102 wherein the first part has a hinging section 104; for providing rotation of the first part in relation to the second part around an axis of rotation.

Regarding claim 4, figures 11a-11c show that the ground plane is connected to said second part via the hinging section for providing a common ground potential in both parts.

Regarding claim 5, wherein the antenna feeding circuit is provided in the second part (figures 1-3).

Regarding claim 9, wherein the antenna element is a multiband antenna element (para. 0061-0067).

Regarding claim 10, wherein the antenna element is a PIFA antenna element (figures 4a-4b)

Regarding claim 11, wherein the antenna element is a monopole antenna element (figure 9).

Regarding claim 12, wherein the portable communication device is a cellular phone (figure 1).

Regarding claim 13, the Iwai et al reference teaches in figures 4 and 11 an antenna system for use in a portable communication device, the device having an antenna feeding circuit 303 and a first part (figures 1-3) with a hollow interior and a main section having a width, length and a first height and including a plurality of electrical elements, the antenna system comprising: a ground plane 301,321,322 located within and extending along the width and the length of at least the main section and an antenna element located within the first part, wherein the ground plane is provided in one piece, wherein the plurality of electrical elements of the first part includes radio transmission elements electrically connected to the ground plane, wherein the ground plane and the antenna element are provided from a same piece of material on a same substrate, and wherein the antenna element is distanced from the ground plane by at least approximately the first height in a height direction of the first part (figures 4 and 11). Iwai et al does not teach the antenna element and the ground plane being provided from a unitary piece.

The Munson et al reference teaches in figures 1-3 an antenna having unitary radiator/ground plane (see the title and the abstract) in order to have a lower cost, have better reliability, have a higher gain, have an increased bandwidth, and have a lower weight (col. 3, lines 65-66, col. 4, lines 1-3).

Since one of ordinary skill in the art would recognize the benefit of improving the gain and the bandwidth of the antenna, it would have been obvious to provide Iwai et al with the antenna element and the ground plane being provided from a unitary piece as taught by Munson et al.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai et al in view of Munson et al as applied to claim 1-5, and 9-13 above, and further in view of Cheng et al (the US 2001/0040529, of record).

Regarding claims 6 and 7, Iwai et al and Munson et al teach every feature of the claimed invention, excluding the hinging section including a hollow hinge cavity and having a second height greater than the first height, and the antenna element being provided inside the hinging section.

The Cheng et al reference teaches in figures 5-7 a hinging section 534 including a hollow hinge cavity and having a second height greater than the first height (figure 6), and the antenna element 6 being provided inside the hinging section in order to increase the transmitting quality of the network card and decrease the shielding effectiveness (para 0011).

Since one of ordinary skill in the art would recognize the benefit of increasing the transmitting quality of the antenna, it would have been obvious to provide Iwai et

al/Munson et al with the hinging section including a hollow hinge cavity and having a second height greater than the first height, and the antenna element being provided inside the hinging section as taught by Cheng et al.

Allowable Subject Matter

5. Claims 8 and 15-20 are allowed.
6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-7, and 9-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HoangAnh T Le/

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Primary Examiner, Art Unit 2821